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ABSTRACT

This paper discusses factors related to negative psychological and physiological reactions (i.e., violent deaths, psychiatric commitments, self-mutilations, attempted suicides, disciplinary infractions, etc.) to life in institutional environments such as prisons, schools, off-shore oil rigs, and homes for the aged. Factors discussed are: (1) social density--number of individuals living in a sleeping area; (2) spatial density--space per person; and (3) unit population--population in total living unit. The hypothesis is that negative reactions to crowding can best be understood by evaluating these factors in light of the nature and degree of their disruption (social disorganization) in various institutional environments. Data on crowding behavior of rats, monkeys, and human subjects were examined in order to test this notion of the importance of the role of social disorganization. A wide variety of cases was examined, including studies based on entry into a dormitory in which friendship patterns were already established, assignment to a new unit, high turnover rates, replacement of highly dominant members in a living group by other highly dominant individuals, removal of partitions in rat cages, and rapid influx of strangers into a formerly cohesive group. Findings indicated that increased social disorganization in all cases studied resulted in increased stress and that increased stress in turn contributed to an increase in negative reactions. The conclusion is that the degree of social disorganization is positively related to the degree of observed negative effects associated with crowded housing conditions. (DB)

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Midwestern Psychological Association Convention, 1981

Social Disorganization as a Critical Factor in "Crowding"[1]

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In the past few years we have focused our research efforts on the effects of social density (number of individuals living in a sleeping area), spatial density (space per person), and unit population (population in total living unit) in institutional environments such as prisons, schools, off-shore oil rigs, and homes for the aged (Cox, Paulus, McCain & Schkade, 1979). We have evidence that all three of these factors are important determinants of negative psychological and physiological effects. However, our most dramatic effects have often been for social density and unit size. Higher social density has been associated with increased levels of illness complaint rates (both contagious and non-contagious), disciplinary infractions, and perception of crowding (Paulus, Cox, McCain & Chandler, 1975; McCain, Cox & Paulus, 1976; McCain, Cox & Paulus, 1980). In the case of unit size, we have evidence of higher death rates for inmates over 50 years old, higher psychiatric commitment rates and higher suicide rates in larger units relative to smaller ones. The suicide data are particularly impressive since the rate in the larger units was about 10 times greater than in the small units (McCain, Cox & Paulus, 1980). The relationship between suicide rates in large and small units is shown in Figure 1.

We have very substantial evidence on the effects of changes in population without corresponding change in facilities. Here the negative effects are seen in terms of suicide rates, deaths from natural causes, violent deaths, psychiatric commitments, self-mutilations and attempted suicides, and disciplinary infractions (Paulus, McCain & Cox, 1978; McCain, Cox & Paulus, 1980). As an example of the relationships we might look at

the relationship between death rates and changes in population. These data come from the psychiatric unit of a large northern prison system. Figure 2 shows the relationship between total population and death rates. The highest death rate is nearly 10 times as great as the lowest over a period of 18 years. It is not clear from these data on changes in population whether the effects are related to unit size, social density within the institution, or some combination of these factors.

A number of underlying factors such as fear, loss of control, stimulus overload, privacy, and territoriality have been presented to explain effects of social density and unit size (Paulus, 1980). Yet, to date there is no sufficient evidence to indicate which of these factors or which combination of factors may be contributing to the negative effects observed. One important variable that may in part underly these factors is social disorganization. Social organization can range from tightly knit groups where roles and expectations are well understood to complete disorganization with no clear roles or expectations. In our view, with all other factors equal, the degree of disorganization will be positively related to the degree of observed negative effects associated with housing conditions. We would anticipate that the negative effects of disorganization are most likely to be observed under several conditions: (1) When a group of strangers are brought together. Bernstein and Mason (1963) obtained such data on experimental formation of a monkey troop. (2) When the number of individuals is too large to constitute a single cohesive group. This is likely to be the case in large institutions or large housing units. (3) When there is a high incidence of strange individuals introduced into

a group or a constant change in individuals available for group formation. We have some new data related to this latter condition. Data to be reported later will involve turnover of individuals in an institution.

Our speculation about social disorganization began with a recent study (Lobb & McCain, 1978) using rats, which suggested social disorganization as a possible contributing element to effects related to social density and unit size. Two groups of 27 rats were housed in adjoining one meter square cages for a period of about one month. During this time measures of aggression were taken. When the partition between cages was removed, aggression rates rose dramatically. On some measures the incidence of aggression tripled with the greater portion occurring in the first few days after the partition was removed. After 13 days the animals were returned to their original cages. Approximately four months later the partition was again removed. This time although there was a slight increase in aggression, it was not statistically significant and did not approach the level following the first partition removal.

Since space per animal did not change over the entire study, spatial density was ruled out as a relevant factor. Social density itself did not seem to be the significant factor since it did not change significantly (a few animals died) between the period of first and second removals of the barrier, while aggression levels were clearly different at these points. Our interpretation is that prior to the initial removal of the partition aggression was low due to the establishment of a social organization including dominance relations. When the barrier was first removed there was no established overall social organization for the combined groups. As

such an organization was established, aggression decreased. On the second removal of the barrier the organization previously established was readily reestablished.

Some studies using human subjects are also suggestive regarding the role of social disorganization. Sundstrom and Altman (1974) observed 12 to 15 year old boys in cottage groups. After a relatively stable period two highly dominant members left the group and were replaced by two other highly dominant individuals. This turnover was accompanied by a decrease in territorial behavior and an increase in aggressive incidents. Megargee (1977) observed a penal institution during a transitional phase. There were changes in the total population and dormitory assignments at certain periods. The effect was to reduce available space during periods of high population. During such periods the incidence of disciplinary violations rose. Megargee's interpretation emphasized spatial density and the disruption of territories.

In order to test our notion of the role of social disorganization we assumed that the higher the turnover of inmates in an institution the greater would be the social disorganization. This in turn would produce stress which could be measured in terms of some negative consequences. We were able to get data on total population, admissions, incident reports and administrative remedies at Danbury FCI. Incident reports are initiated by the staff and usually involve some infraction of the rules. Administrative remedies are responses to inmate complaints. These measures have the virtue of representing actions originated by the staff and inmates independently.

Records were collected at Danbury Federal Correctional Institution covering a period of 24 months (7/76 - 6/78). Data from a six month period (7/77 - 12/77) were not included in the analysis. This period was not used due to a large dormitory fire which led to substantial changes in housing assignments. During the period surveyed total population was relatively stable with a range of 732 to 816 inmates.

The relationship between inmate turnover and incident reports and administrative remedies were analyzed in a number of different ways with incidents and remedies considered both separately and pooled using χ^2. Significance levels ranged from about .07 to less than .0001. In every case the trend was in the same direction. In brief, higher turnover rates were accompanied by a higher rate of both incident reports and administrative remedies.

This result is made more striking by the fact that the highest turnover rates occurred when total population was lowest. Elsewhere (McCain, Cox & Paulus, 1980) we have presented very substantial evidence that the larger populations typically produce more negative effects. In the present case the effects of turnover and the presumed social disorganization were sufficiently potent to overcome the effects of limited differences in total population.

We have also reexamined some data reported earlier to see how it fits with the notion of the role of social disorganization. We found that when individuals are assigned to new units, either from outside or within the institution, illness complaint rates reach very high levels for about the first six weeks then decline substantially. This is true even though

the individuals have been in the institution for a period of time and the assignment is from less desirable to more desirable quarters (McCain, Cox & Paulus, 1980). This finding is compatible with the idea that entry into new quarters represents social disorganization for the individual resulting in increased stress.

We have speculated that entry into an open dormitory should present the individual with greater problems in becoming a part of a stable social organization as compared to an individual entering a single cell. On this basis we would expect that the drop in illness complaint rates should be much steeper for those entering single cells. Looking at data from five institutions (Atlanta, Danbury, El Reno, La Tuna and Texarkana) we found this to be the case. During the first six weeks the mean weekly rates were very close ($\bar{X}_{singles} = .310$, $\bar{X}_{dorms} = .309$). However, for the period greater than six weeks there was a substantial difference ($\bar{X}_{singles} = .102$, $\bar{X}_{dorms} = .218$). We also made the same sort of comparison using only Danbury and Texarkana since each had singles and dorms. The results are very similar to those reported above.

The evidence presented is clearly compatible with the notion that social disorganization is potentially an important variable in the investigation of "crowding". We expect to have more data in the near future.

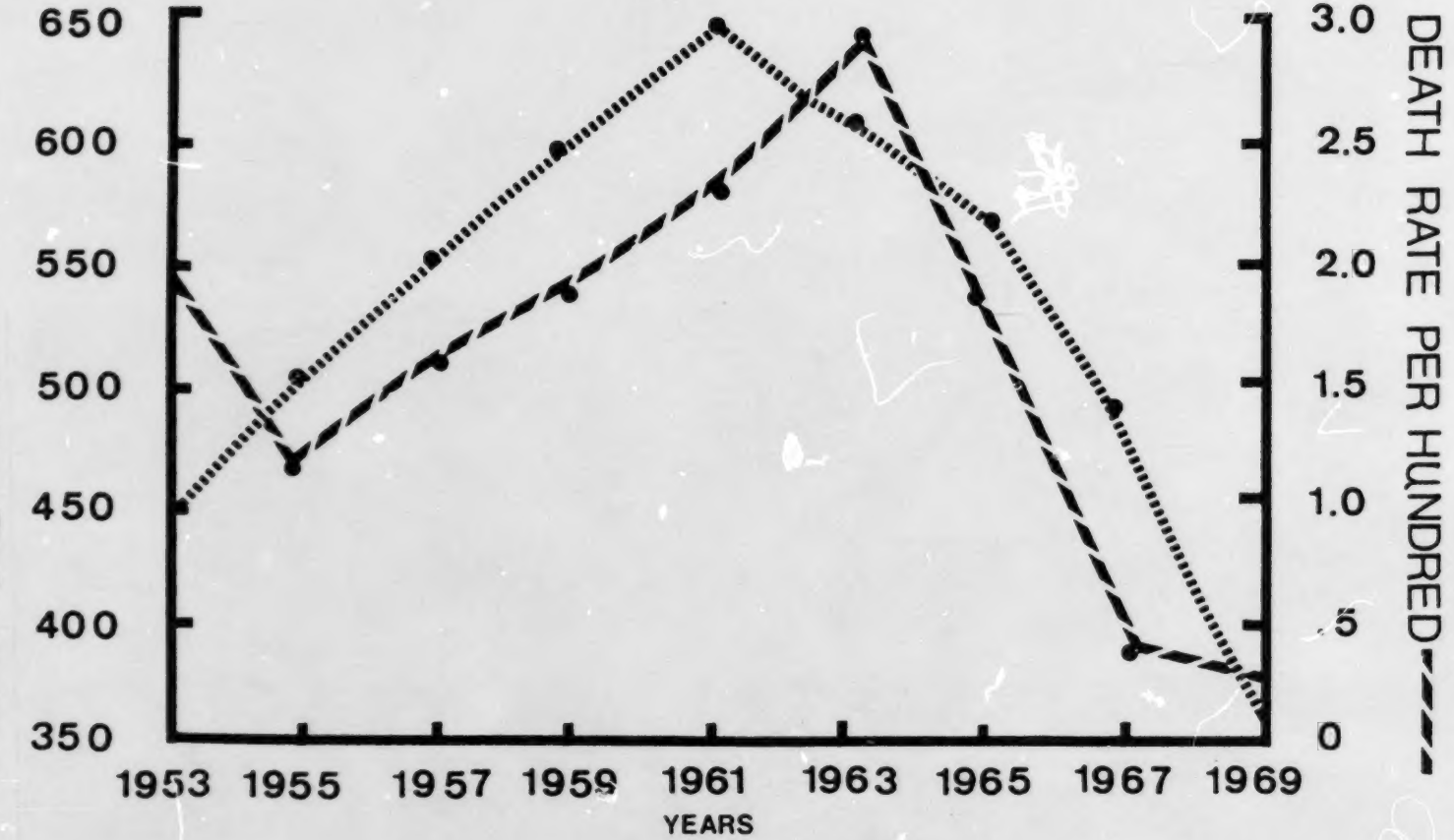

FIGURE 1

Figure 1

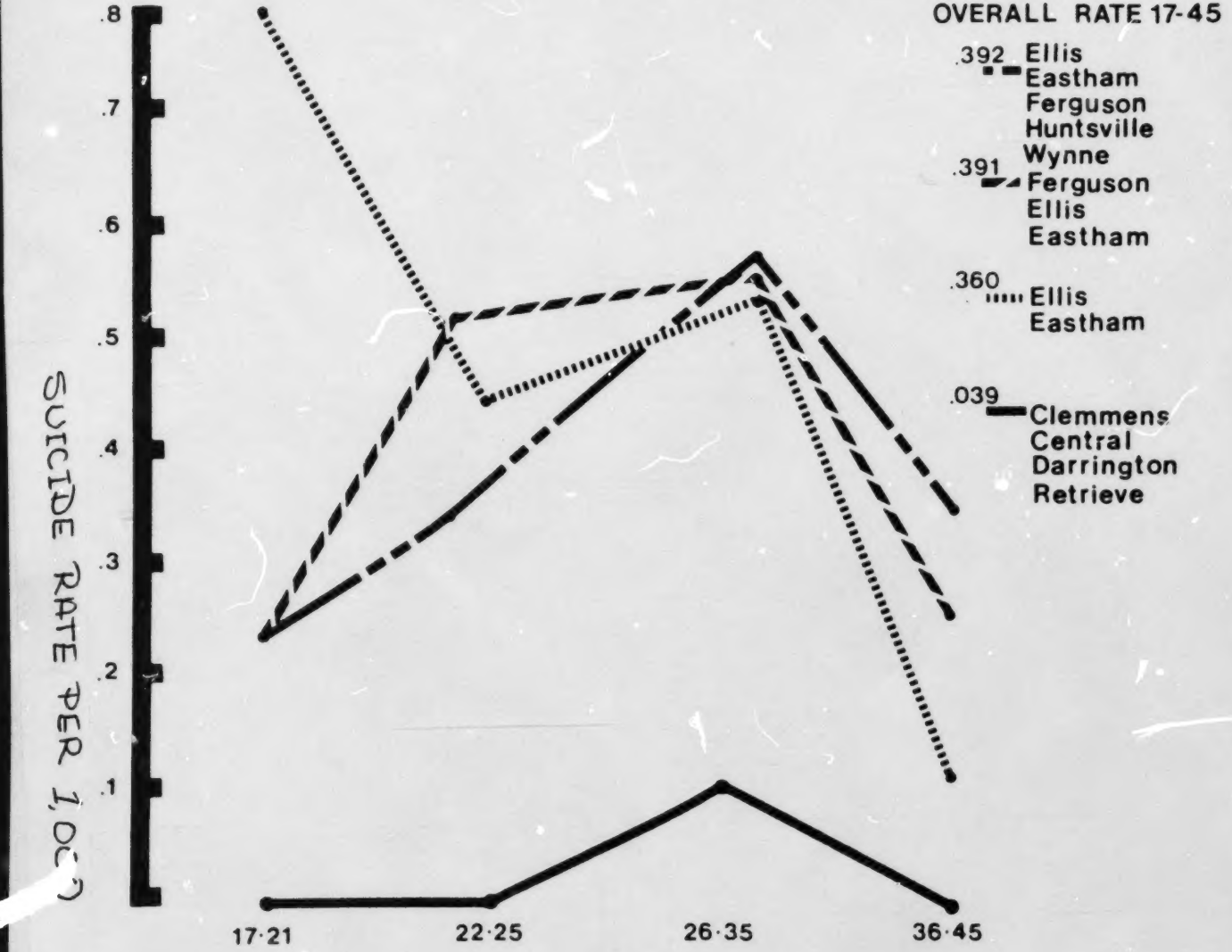
OVERALL RATE 17-45
.392 Ellis
Eastham
Ferguson
Huntsville
Wynne
.391 Ferguson
Ellis
Eastham
.360 Ellis
Eastham
.039 Clemmens
Central
Darrington
Retrieve
SUICIDE RATE PER 1,00
.8
.7
.6
.5
.4
.3
.2
.1
17·21
22·25
26·35
36·45

Figure 2

Reference Note

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